

Comparison of Nurses' Smoking Habits: the 1975 DHEW Survey and Connecticut Nurses, 1981

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SYNOPSIS

In a 1975 study conducted by the Centers for Disease Control, Department of Health, Education, and Welfare, 38.9 percent of the nurses surveyed were smokers—a substantially higher percentage than among women in the general U.S. population and higher than among other groups of health professionals. In a 1981 study of a 3-percent random sample of Connecticut nurses, only 25.5 percent of the nurses reported that they smoked.

There are limitations to comparisons of the two studies. The 1975 sample was a national population, and the Connecticut study was limited to nurses in one State and may not reflect the habits and attitudes of this occupational group throughout the country. In the more recent study, however, there appear to be several differences in nurses' smoking habits.

- *A trend toward a decrease in smoking seems to be emerging among nurses.*
- *The percentage of smokers among the Connecticut nurses resembles the prevalence in two other recent surveys: 25.8 percent in the American Cancer Society, Rhode Island Division study, and 23.6 percent in the University of Michigan Hospital survey. In the U.S. female population, 29.4 percent of the women are smokers.*
- *The percentage of former smokers in both the U.S. and this Connecticut population seems to be rising, and there appears to be a trend toward increasingly larger percentages of former smokers in each successive age group.*
- *Smoking more (25 or more cigarettes per day) was reported by 28 percent of the Connecticut nurses compared with 16 percent in the earlier study.*
- *Compared with the 1975 sample, significantly fewer Connecticut nurses who smoked agreed that a nurse should set a good example by not smoking and that most cigarette smokers can stop if they want to.*

IS IT STILL A FACT, as it was in 1975, that more nurses than other health professionals smoke cigarettes? Do they continue to smoke more than women in general?

The results of a 1981 Connecticut study indicate that the answer to each of these questions is "No."

In a 1975 study of 2,429 nurses conducted by the Centers for Disease Control, Department of Health, Education, and Welfare (DHEW) (1), it was found that 38.9 percent of nurses were smoking, a substantially higher proportion than the 28.9 percent of women in the general population and a higher proportion than other health professionals studied—specifically physicians (21 percent), dentists (23 percent), and pharmacists (28 percent).

This study has been, and continues to be, widely quoted. For the past 7 years, nurses have been criticized as the only group of health professionals who have not decreased their smoking. Many programs aimed at helping nurses to quit smoking have been generated as a response to the 38.9 percent smoking prevalence rate for this professional group.

During the late 1970s, the Nursing Committee of the American Cancer Society, Connecticut Division, Inc., began a series of activities aimed at reducing smoking among nurses in several hospitals in the State. The programs failed to generate enthusiasm among the target group. Several members of the nursing committee believed that more understanding of the actual problem among the nurses in the State

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was needed before embarking on additional program strategies. A study of a 3-percent random sample of licensed registered nurses in Connecticut was carried out. Only 25 percent of the nurses reported that they were still smoking, a proportion that is substantially lower than the percentage in the 1975 DHEW study who smoked and also lower than the proportion of smokers in the U.S. female population.

Methods

Research instrument and data collection. A 39-item questionnaire that employed items from the DHEW survey and from studies by the Nurses Association of the American College of Obstetrics and Gynecology (NAACOG) (2) and the Rhode Island Division of the American Cancer Society (3) was used to gather general and specific information on the nurses' smoking behaviors. All respondents were asked for demographic data and for their perceptions as role models and health educators. Additional questions included smoking practices, attitudes toward quitting, attempts at quitting, and quitting methods used by smokers and former smokers.

Personnel at the Centers for Disease Control reviewed the questionnaire to assure that data from the DHEW 1975 study could be compared with this survey held in 1981. A cover letter explained the purpose of the study and stressed the importance of information from former smokers and nonsmokers as well as from the smokers. The letter was signed by members of the nursing committee. A 3-percent random sample of all licensed registered nurses in the State, 1,119 names, was drawn with the cooperation of the Connecticut Department of Health and Human Services. The Yale School of Nursing and the Leinhard School of Nursing of Pace University provided analytical expertise and help.

Statistical methods. The data were analyzed for frequency distributions. Further analysis was done to describe relationships between variables by groups, and the findings were compared with those of the 1975 study. Cross tabulations of data for the study were compiled using the Statistical Package for the Social Sciences.

Response rate. The original mailing yielded a 52-percent response rate, or 545 returns. However, CDC staff emphasized the importance of knowing whether nonrespondents comprised a larger percentage of smokers than did the respondents. They suggested acquiring an 80-percent response, especially information on the smoking status since, in the past, nonsmokers and former smokers have been more inclined to return questionnaires than have smokers. Two followup postcard mailings, with only a question as to whether the person was presently a smoker, were sent to nonrespondents. The first followup mailing brought 59 responses. The second mailing, which included a note that the subject identification number had been deleted, attracted a larger response—194—and the final response rate

Table 1. Mail survey response and smoking status of Connecticut nurses, 1981

Item	Total mailed	Undeliverable	Completed		Smokers		Nonsmokers	
			Number	Percent	Number	Percent	Number	Percent
Original mailing	1,119	73	545	52.1	139	25.5	406	74.5
First followup ¹	528	13	59	11.4	11	18.6	48	81.4
Second followup ¹	429	28	194	48.4	59	30.4	135	69.6
Total response	1,119	114	798	79.4	209	26.2	589	73.8
Followup mailing only	...	...	253	...	70	27.7	183	72.3

¹ Postcard only.

was 79.5 percent (table 1). The followup mailings verified that the respondents to the original mailing were representative for smokers and nonsmokers.

Results

The study sample consisted of the 545 nurses from the original mailing who completed the questionnaire.

Present smoking habits. In the 1981 study, 25 percent of the nurses reported that they were smokers, 40 percent were former smokers, and 35 percent were nonsmokers. The percentages of the nurses in the two studies according to smoking status follow:

Status	1981 Connecticut study	1975 DHEW study
Smokers	25	39
Former smokers	40	22
Nonsmokers	35	40

There are, proportionally, more former smokers in the Connecticut study than in the 1975 DHEW study and fewer current smokers.

Table 2 presents the smoking habits of the nurses who responded in the two studies. More nurses in the 1981 study reported smoking 25 or more cigarettes per day (28 percent versus 16 percent), and fewer nurses smoked under 15 per day (26 percent versus 38 percent).

The 1981 study also demonstrates that 76 percent of the nurses, compared with 91 percent in the 1975 study, have smoked 10 years or more, and 63 percent of the nurses reported smoking lower tar and nicotine cigarettes compared with 23 percent in the 1975 study.

Attitudes about giving up smoking and perceptions of role as exemplars. In both studies, attitudes about the difficulties of giving up smoking were explored,

and whether nurses see themselves as role models was evaluated (table 3). The results differed little, although the percentage agreeing with the attitude statements was slightly smaller in the total sample of the Connecticut study than that in the DHEW study, regardless of the content of the attitude statement (table 3). However, two of the statements—"Most cigarette smokers can quit if they want to" and "Nurses should set a good example by not smoking"—show a significant difference among the three groups: smokers, nonsmokers, and former smokers. Significantly fewer nurses who smoked agreed that nurses should set a good example ($P = .0001$) and that most cigarette smokers can stop if they want to ($P = .008$).

Table 2. Smoking habits of nurses in two surveys compared with the U.S. female population (percentages)

Smoking habit	Connecticut study		1975 DHEW study	
	Nurses ¹	U.S. female population, DHHS 1980 ²	Nurses	U.S. female population, 1975 ³
Number of cigarettes smoked daily:				
Fewer than 15 ...	26	35	38	33
15-24	46	43	46	44
25 or more	28	22	16	23
Length of smoking habit:				
Less than 10 years				
.....	24	..	9	23
10 years or more				
.....	76	..	91	78
Mg of tar in cigarettes smoked:				
20 and over	1	6	9	13
16-19	3	55	68	70
15 and less	63	39	23	17
Didn't answer ...	33	..	..	..

¹ 18 and older. ² 20 and older. ³ 21 and older.

Table 3. Attitudes and exemplar roles of nurses in two surveys (percentages)

Survey statement	DHEW study, strongly or somewhat agree	Connecticut study, agree			
		Total sample	Smokers	Former smokers	Nonsmokers
Most cigarette smokers can stop if they want to ¹	73	71	62	77	68
Most people will not give up smoking even if their physician tells them to	66	66	61	70	66
Nurses should set a good example by not smoking ²	87	80	69	83	89
It is the nurse's responsibility to convince (assist) people to stop smoking	77	70	64	70	75

¹ $P = 0.008$. ² $P = 0.0001$.

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Discussion

There are limitations in comparing the two studies. The 1975 study carried out by the Department of Health, Education, and Welfare was a national sample. The 1981 study was carried out in one State and, although it is a representative sample of Connecticut nurses, it may not reflect the habits and attitudes of nurses throughout the country. In addition, during the 6-year gap between the studies, many events could have influenced the responses of the nurses, such as widespread public recognition of the health hazard of cigarettes, differences in attitudes about the importance of health issues, the example of not smoking set by other health professionals, the amount of antismoking publicity, and number of stop-smoking programs run by Connecticut agencies such as the State department of health and human services, American Cancer Society, and the American Lung Association.

Nevertheless, there appear to be several shifts in the habits of nurses during the 6-year interval.

First, a smaller percentage of Connecticut nurses reported smoking in 1981 than in the nationally surveyed population of nurses in 1975. The average prevalence of 25.5 percent for the Connecticut group still smoking resembles findings in surveys of nurses conducted in two other States: the American Cancer Society, Rhode Island Division, reported a rate of 25.8 percent, and the University of Michigan Hospital's staff, 23.6 percent (4). The results of our study also compare with the prevalence of 29.4 percent smokers in the female population of the United States (5). A trend toward a decrease in smoking seems to be emerging among nurses.

Second, the percentage of former smokers seems to be rising. There appears to be a trend toward increasingly larger percentages of former smokers

with each successive age group (6). The 33.6 percent of Connecticut nurses in the 45-54 age group who were former smokers is close to the 32 percent of U.S. females who are former smokers (7).

Third, Connecticut nurses reported smoking more cigarettes per day. In the 1975 DHEW study, only 16 percent of the nurses who smoked were smoking 25 or more cigarettes per day compared with 28 percent of Connecticut nurses in the more recent study. This observation could be a reflection of higher quitting rates among lighter smokers, the addition of new heavy smokers to the population, heavier smoking among the nurses who continue to smoke, or a combination of all three factors. However, increasing daily cigarette consumption has also been reported among the general population of female smokers (7).

Fourth, a higher percentage of Connecticut nurses reported smoking lower tar cigarettes than the nurses interviewed in 1975. In the more recent study, 63 percent of Connecticut nurses reported smoking cigarettes with a tar yield under 15 mg compared with 23 percent in the DHEW study. Even though 33 percent of the respondents in the Connecticut study did not know the amount of tar in their cigarettes, 71 percent of the current smokers said that they had switched to a lower tar cigarette in the past 5 years, reflecting the trend toward lower tar cigarettes. During the last decade, low tar brands have been marketed in increasing proportions. Federal Trade Commission data show that cigarettes yielding 15 mg or less of tar rose from 15 percent of all brands sold in 1968 to 58.5 percent in 1979 (5).

There may be connections between these two factors: Connecticut nurses reported smoking more cigarettes per day and smoked lower tar cigarettes. The reports of the Surgeon General suggest that lighter smokers are more successful in their efforts to quit (8), thus leaving the heavier smokers as those who continue the habit, and that smokers may smoke more cigarettes when they switch to brands with lower yields of tar and nicotine (5).

Fifth, apparently there have been some shifts in attitudes among the Connecticut nurses who continue to smoke, particularly in regard to their role as exemplars. Significantly fewer nurses who smoke agree that a nurse should set a good example by not smoking.

Sixth, the smoking habits of Connecticut nurses (who are almost all female) and of the general female population seem to be similar. For both groups, the average age when smoking starts has decreased, the number of cigarettes smoked each

day has increased, a greater proportion of each group of smokers has switched to a lower tar cigarette, and more smokers in each group are 40–59 years old (3, 6, 7). Further, nurses and the general female population share common perceptions of problems in work situations: stress, dual roles as wage earners and homemakers, lower pay and slower advancement for women than for men, lack of job satisfaction and of independent decision making, task-oriented jobs, and authoritarian male-dominated organizations (9–11). The Michigan study indicates that nurses who smoke perceive their jobs as more stressful than nonsmokers.

Two avenues need exploration.

- A national survey or studies of nurses in several other States needs to be done. Our study, a representative sample of Connecticut nurses, was regional and therefore is suggestive but not definitive. Ethnic and regional differences, hospital policies regarding smoking behavior, legislation passed on the subject, and other differences, as well as the trends noted earlier, could influence the results. Although the Rhode Island and Michigan studies seem to corroborate the fact that fewer nurses are smoking, the data need to be replicated and compared before they can be generalized to the entire population of nurses.
- Ways of raising the levels of nurses' perceptions of their roles as exemplars need to be found. The recently printed proceedings of the National Conference on Smoking or Health highlight the need to increase the awareness of health professionals, and nurses in particular, of their roles as exemplars in influencing the public's smoking behavior. The report cites the strategic position that nurses are in to affect the smoking habits of the public (12).

Since nurses make up more than half the employees in the health occupation, failure on the part of the nursing profession to act as non-smoking exemplars has a potentially negative impact on patients and the public. Smoking among nurses is particularly a problem because of the nurse's sustained contact with patients.

In general, the results of the Connecticut study are encouraging because it appears that a larger percentage of nurses have joined their colleagues in the health professions in breaking the smoking habit. No longer can nurses be singled out as the only group of health professionals who have not cut down on cigarette smoking. Yet unresolved is how to convince nurses of their importance as health educators and exemplars, especially those nurses who are currently smoking.

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